



95-0000023

## Department of Energy

Richland Field Office

P.O. Box 550

Richland, Washington 99352

94-CHD-147

DEC 29 1994

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
Suite 700  
625 Indiana Avenue, NW  
Washington, D.C. 20004

Dear Mr. Conway:

TRANSMITTAL OF WESTINGHOUSE HANFORD COMPANY, CHARACTERIZATION PROGRAM, NOVEMBER MONTHLY REPORT, IN ACCORDANCE WITH THE U.S. DEPARTMENT OF ENERGY IMPLEMENTATION PLAN FOR BOARD RECOMMENDATION 93-5.

Enclosed is the Westinghouse Hanford Company (WHC) Characterization Program - November Monthly Report (letter #9458380, with attachment, dated December 16, 1994). This report is being submitted to you to provide information and status on actions associated with the 93-5 Implementation Plan.

Significant accomplishments for the month of November were:

- The Lockheed Idaho Technologies Company Laboratory (LITCO) was upgraded to ready-to-serve mode by Analytical Services; The upgrade was submitted to the DNFSB, completing the 93-5 Implementaion Plan Commitment 5.12.
- Preliminary testing of a manual core sampler has confirmed it's potential application; more rigorous testing of the manual core sampler in simulated wastes are currently being performed to further substantiate the samplers application potential.
- Rotary Mode Core Sampling began in BY Farm, with the first rotary sample segment obtained from tank 241-BY-106.
- Samples collected and sent to the laboratories for analysis during November include:
  - 4 liquid grab samples from Tank 241-AN-102.
  - 14 liquid grab samples from Tank 241-AP-106.
  - 2 grab samples from Vault ER-311.
  - 6 Type 3 vapor samples, one each from Tank 241-BY-107, Tank 241-BY-108, Tank 241-BY-103, Tank 241-BY 110, Tank 241-BY-111, and Tank 241-BY-112.
  - 2 auger samples from Tank 241-A-104.
  - 2 auger samples from Tank 241-C-108.
  - 1 push mode segment from Tank 241-C-103.
  - 1 rotary mode core segment from Tank 241-BY-106.

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- Tank Characterization Plans (TCPs) approved and released during November include:

241-BY-105, 241-C-108 (auger), 241-C-105,  
241-BY-108 (auger), 241-BY-110 (vapor)  
241-BY-111 (vapor), 241-BY-112 (vapor)  
241-A-104 (auger), 241-BX-105 (auger)  
241-AP-106 (evaporator grab)

- TCP revisions released in November were:

Tank 241-BY-106, Rev OC; The Ferrocyanide Program requested a change in type of sample preparation for specific analytes.

Tank 241-AP-106, Rev 1; a review of the available tank historical sample data resulted in a decision to reduce the suite of analyses.

Problems:

- The 325 Laboratory startup is on hold pending declaration of readiness by 325 Laboratory Management; corrective actions and Team Walk Down of 325 Laboratory continue.
- Push mode sampling has been halted until corrective repair work restores the damaged hydraulic ram on the shielded receiver to working order.
- The 2 auger samples obtained from Tank 241-A-104 had zero percent recovery.
- Scheduled sampling of vault CR-003 was postponed because of an undocumented obstruction discovered in the riser prior to sampling.

Sincerely,



T. R. Sheridan, Acting Assistant Manager  
Tank Waste Remediation System

CHD:CAB

Enclosure

cc:

K. T. Lang, EM-362, DOE-HQ, w/encl.  
T. J. Kelley, WHC, w/o encl.

CHARACTERIZATION PROGRAM  
BIWEEKLY REPORT FOR THE PERIOD  
ENDING NOVEMBER 4, 1994

SIGNIFICANT ACCOMPLISHMENTS

Preliminary tests in October 1994 confirmed the potential application of a manual core sampler. The manual core sampler is a variation of a commercially available unit that was fabricated specifically for the U.S. Department of Energy, Richland Operations Office (RL). Characterization Engineering prepared a test plan (Test Procedure - Prototype Core Sampler, WHC-SD-WM-TC-066) for a more rigorous series of tests in simulated wastes. These tests will determine the sampler's recovery of three types of simulants and evaluate the preservation of layered waste. The logistics of sampler transport and sample removal will also be addressed in parallel tasks. (WBS 1.1.1.4.2)

Analytical Services completed the upgrade of the Lockheed Idaho Technologies Company (LITCO), formerly Idaho National Engineering Laboratory (INEL), Laboratory to meet the requirements of the laboratory upgrade plan October 31, 1994, completing Defense Nuclear Facilities Safety Board (DNFSB) 93-5 Implementation Plan Commitment 5.12 on schedule. RL has transmitted the DNFSB commitment letter reporting completion of this commitment to the DNFSB. (WBS 1.1.1.2.4.4)

The "45-Day Safety Screening for Tank 241-BX-108, Risers 2 and 6," (WHC-SD-WM-DP-072, Rev. 0-A) was submitted to Configuration Documentation for release into the supporting document system on October 25, 1994. (WBS 1.1.1.2.4.4)

PROBLEMS/ISSUES

The U.S. Department of Energy (DOE) Independent Review Team remains on hold pending declaration of readiness by 325 Laboratory Management. The date for approval of restart of the 325 Laboratory has been in the schedule as November 9, 1994. This schedule is being revised to reflect the activities being performed during the recess of the DOE Independent Review Team. The revised schedule includes the following:

Complete prestart corrective actions to resume operations	November 15, 1994
Pacific Northwest Laboratory (PNL)	
Team Walk Down of 325 Laboratory	November 16-18, 1994
Resumption of DOE Independent Review	November 30 - December 2, 1994
Corrective Actions	December 5-9, 1994
Approval to Restart	December 9, 1994

(WBS 1.1.1.2.4.4)

## DETAILED WORK ACTIVITIES

### TECHNICAL INTEGRATION AND PLANNING (WBS 1.1.1.2.4.1)

The Characterization Program is working to meet the concerns raised by the Washington State Department of Ecology regarding the critical path analysis. A critical path schedule will be completed by November 30, 1994, which will incorporate, through integration, an accurate summarization of the subordinate sampling schedule.

The Cost Engineering and Estimating Team has been working with the Characterization Program to help facilitate and identify the status and quality of documentation supporting the current baseline cost estimate. The team has expanded its focus to also look at Low Level Waste and Retrieval Program Elements. Eventually all of Tank Waste Remediation System (TWRS) will be participating in the process. A methodology has been developed by the team to accurately identify the status and quality of documentation supporting the current baseline cost estimate. The team will implement a process in which activity-based-costing will be the primary tool for the preparation of estimates.

WHC is finalizing work priorities within TWRS. Once the budget is finalized, priority will be given to revising the Defense Nuclear Facilities Safety Board (DNFSB) 93-5 Implementation Plan.

### TECHNICAL DEVELOPMENT AND APPLIED ENGINEERING (WBS 1.1.1.2.4.2)

The Technical Development Program Office (TDPO) Characterization Architecture Group (CAG) met for two days to draft proposed technology development tasks for the Characterization section of the Integrated Technology Plan (ITP). The TDPO and Characterization staff met with other Tank Waste Remediation System (TWRS) programs to project potential future needs and with sampling and analytical staff to identify new methods needed. The meetings also identified areas for improvements in current methods. The draft ITP will be circulated in December 1994 for review.

### FIELD SAMPLING AND MEASUREMENT (WBS 1.1.1.2.4.3)

Seven additional changes to the Integrated Sampling Schedule have been approved in the third change request 94-03 on October 27, 1994, and the fourth change request 94-04 on November 2, 1994:

- (1) Deleted Type 3 vapor sample for 241-BX-106 since this tank is no longer on watch list and not on schedule for rotary.
- (2) Moved vapor sample for 241-BX-102 to August 21-23, 1995, and shifted from type 3 to type 2. 241-BX-102 is no longer on watch list but is on rotary list.
- (3) Advanced grab sample for 241-AW-102 to November 7-9, 1994.

- (4) Postponed grab samples on 241-C-106 until the scope and timing of the water additions are better defined. A later schedule change will communicate when the sampling will occur.
- (5) Due to problems with 241-AP-103, changed the feed tank to 241-AP-108. Also, advanced sampling to December 15-19, 1994 to work in parallel with 241-AZ-102.
- (6) Added a grab sample for 241-S-110 to work in parallel with 241-AN-107, during June 6-8, 1995.
- (7) Added a grab sample for catch tank 241-CR-003 for the period November 3-4, 1994.

Four liquid grab samples from tank 241-AN-102 were shipped to the laboratories on October 24, 1994.

Tank 241-T-107 riser inspection was completed on October 25, 1994, in preparation for thermocouple tree installation; and set up activities began on October 31, 1994, for installing the Temperature Vapor Probe (TVP) in the tank.

The Type 3 vapor samples were obtained from tank 241-BY-107 on October 25, 1994 and from tank 241-BY-108 on October 27, 1994.

Auger sampling in tank 241-A-104 was started on October 30, 1994. One auger sample of the four planned was obtained and shipped to 222-S Laboratory on November 1, 1994. Auger sampling planned for November 4, 1994, in 241-A-104, was canceled due to excessive wind and rescheduled for November 7, 1994.

Two grab samples from Vault ER-311 were shipped to the laboratories on October 31, 1994.

Tank 241-BY-103 type 3 vapor sampling was completed on November 1, 1994.

As of October 24, 1994, the rotary truck had been leveled in its location over the riser on tank 241-BY-106 in preparation for scheduled sampling. On October 25, 1994, during the exhauster startup procedure, it was discovered that the Rosemont hydrocarbon analyzer had failed and a spare was located on site and installed on October 26, 1994 and prepared for calibration sequence. On October 27, 1994, investigation into maintenance problems with calibration of the Rosemont analyzer revealed the presence of an insect body in the lines, which delayed calibration efforts until October 28, 1994. Generator replacement problems continued and the crews began contingency operations, i.e., riser preparation for tank 241-BY-105. It was decided to use the nearby in farm electrical power supply since this would be available sooner than repairing the failed generator set or borrowing one of the engine generator sets intended for truck systems 3 or 4. Using in farm power allows 241-BY-105 sampling to resume several days sooner than either of the other options. Preparation for installation of the in farm

electrical power supply is continuing in addition to preparing an engine generator set.

The required aerosol test on the HEPA filter set up in tank 241-BY-106 for rotary sampling was completed on October 26, 1994.

Preventative maintenance was conducted on the Breathing Air Compressor (BAC) in BY farm in preparation for rotary sampling. Except for the adverse weather (rain and wind), sampling is ready to proceed after the generator problems are resolved.

Walkdown in BY farm of three tanks, 241-BY-110, 241-BY-111, and 241-BY-112 was completed in preparation for scheduled vapor sampling.

The walkdown and preparation of CR-003 was completed preparing the vault for the scheduled two grab samples. An alternate riser for CR-003 liquid grab sampling was identified and necessary changes to the work package are being made. The original sampling riser provided access to the vault holding CR-003 but not access into CR-003 itself; therefore, a new riser needs to be identified.

In the push mode sampling system, as of October 25, 1994, the Breathing Air Compressor and the Generator had to be moved to a different location in C farm. The Surface Contamination Area (SCA) was expanded and required moving the two pieces of equipment outside the SCA boundary.

The first push mode segment from the tank 241-C-103 was obtained on October 28, 1994, and shipped to the laboratories on October 31, 1994. On November 2, 1994, the hydraulic ram on the shielded receiver for the push truck was damaged while setting up for the second sample on tank 241-C-103. Analysis is underway to determine the cause and necessary repairs for the damage.

A detailed plan has been prepared to return the push mode truck to sampling status. Steps included replacing the damaged hydraulic ram, inspection of the platform and related equipment for possible damage, functional testing, and determination of the original failure cause in order to preclude recurrence. This will all take place before resuming scheduled sampling. The present plan is to leave the push truck in C farm for the needed repairs. Unless unusual circumstances arise this will be the most effective approach to make repairs and resume the sampling on tank 241-C-103.

The work package with corrective action and inspection steps identified for the push truck in C farm is expected out of resolution on November 7, 1994. Some of the actions include replacing the heavier existing shielded receiver with the lighter weight assembly from storage. The heavier shielded receiver assembly is required for certain tanks that are scheduled for sampling in the future and the heavier shielded receiver will be re-installed when needed. Grade 8 bolts, determined by

Engineering to be required for installation of the replacement shielded receiver, are on order and delivery expected the week of November 7, 1994.

A procedural violation occurred and an "Off Normal" declared when a specific tank sample was shipped with insufficient time to receive and open the sample container at the 222-S Laboratory. Further shipping of field samples to the laboratories was placed on temporary hold until a critique was conducted. The critique of the event conducted by Operations on November 3, 1994. Two short term and one long term actions were established as corrective steps. Both of the required short term actions have been completed to permit field samples again to be shipped to the 222-S Laboratory. The one long term item, specific training, will take one to two months to complete but will not prevent shipping of samples to the lab.

A white paper addressing the effectiveness of the type 2 and type 3 vapor sampling methods used in tank farm characterization has been drafted. The Waste Tank Safety Program has incorporated internal peer review comments and will be issuing the paper next week for external peer review. After external review comments have been included, the paper is expected to be submitted to RL by late November 1994 with recommendations for equipment changes and a preferred vapor sampling method.

#### ANALYTICAL INTEGRATION (WBS 1.1.1.2.4.4)

Four liquid grab samples from tank 241-AN-107 were received by the 222-S Laboratory on October 24, 1994. Characterization analysis is proceeding on schedule.

Samples from tank 241-B-102 were logged into the LABCORE system. This represents the third tank for which LABCORE is being used to track the analysis of samples and download the analytical results into a spreadsheet ready for direct incorporation into the final data report.

The screening limit for moisture in core sample 62 from 241-SY-103 exceeded the thermogravimetric analysis (TGA) [% moisture] result of 13.7% which was below the 17% safety screening limit for reporting purposes. Verbal notice was given on October 25, 1994, followed by written notification on October 26, 1994. The sample was analyzed under a nitrogen atmosphere. The Differential Scanning Calorimeter (DSC) analysis for segment 8 showed no exotherms. The segment 8 sample in question was one of the "snow cone" ice solid samples. The typical range in moisture content for these samples has been 20-40 percent.

The 241-A-104 auger sample, in cask serial #C1052, was vented on November 2, 1994. The cask had not been vented prior to shipment to the 222-S Laboratory as required by procedures. TWRS is following up with all required reporting criteria. Based on the uncertainty of this

DNFSB 93-5 QUARTERLY REPORT, APRIL 1 TO JUNE 30, 1997

**4 STATUS OF REVISION 1 MILESTONES OVERDUE, DUE WITHIN SIX MONTHS, OR COMPLETED DURING THE REPORTING QUARTER**

**4.1 Safe Storage of Tank Wastes and Safe Operation of Tank Farms**

**Commitment**

**Number**

**5.4.3.1 TWRS Manage Tank Waste Function Authorization Basis**

Statement: Upgrade the Authorization Basis for the TWRS Manage Tank Waste Function

Responsible Manager: Assistant Manager, TWRS

Applicable facilities and programs: TWRS

Milestone deliverables/due dates:

**d. Approved FSAR.**

Due Date: June 1997

Status: Overdue. Delayed by BIO revision and implementation. The estimated milestone completion date is March 1998.

**5.4.3.3 Organic Complexants**

Statement: Complete testing and evaluation confirming simulant results with real waste.

Responsible Manager: Assistant Manager, TWRS

Applicable facilities and programs: TWRS

Milestone deliverables/due dates:

**a. Letter reporting completion of supporting technical document on Organic Complexant Safety Issue. (This topical report will describe the current understanding of the issue and future work for resolution).**

Due Date: December 1996

Status: Complete. Submitted to the DNFSB on June 27, 1997.

**5.4.3.5 Flammable Gas**

Statement: Complete analytical evaluations and steady-state vapor samples to determine which flammable gas tanks require mitigative actions. Qualify saltwell pumping and rotary-mode core sampling for flammable gas environments.

Responsible Manager: Assistant Manager, TWRS

Applicable facilities and programs: TWRS

Milestone deliverables/due dates:

**d. Letter reporting qualification of Rotary Mode Core Sampling System for use in Flammable Gas Tanks.**

Due Date: September 1996

Status: Overdue. Adoption of the BIO flammable gas controls for the RMCS controls that are not unique to the Rotary Mode Core System has been approved by DOE/RL. Approval allows exhauster operation without major modifications. Start of rotary mode core sampling is expected during the next quarter.

**l. Letter reporting refinement of flammable gas generation/retention models using void meter and retained gas sampling data.**

Due Date: May 1997

Status: Complete. Reported to the DNFSB on May 27, 1997.



WHC radioactive standards were packaged and shipped via "the warthog" shipping container to LITCO on October 25, 1994. Receipt and use of these samples will support demonstration of LITCO achievement of a ready-to-serve mode in support to the TWRS Characterization Program.

Demolition of the 222-S Laboratory Room 4TUV, as part of the laboratory room upgrades program, has been completed and the reconstruction has started. Most of the materials are onsite and we do not expect any delays. Due to changes in the Kaiser Engineers Hanford Company (ICF KEH)/WHC system, ICF KH is having difficulty with cost reporting and has not been able to put out a reliable report this Fiscal Year (FY), but it appears that the costs may be higher than originally thought. The estimate for construction is expected for review on November 11, 1994.

Performance of routine radiological activities remains on hold at PNL's 325 Laboratory, but the following activities have been completed toward restart:

- The DOE Independent Review Team elected to recess their Readiness Review of the 325 Laboratory and documented their observations to the PNL 325 Laboratory Management Team. The 325 Laboratory Management Team evaluated the observations and determined that six separate causal factors contributed to the observations. PNL management has utilized the causal factors in establishing the basic structure of the recovery plan.
- A complete 325 Laboratory walkdown has been conducted in response to the change in the assessment scope. The walkdown includes Occupational Safety and Health Administration (OSHA), Criticality Safety, Material Balance Areas, Radiation Control and Industrial Health and Safety related areas.
- New policies have been established in response to the recent assessments of the 325 Laboratory. The policies were developed to address those areas that were open to interpretation and provide concise direction to staff, management, and auditors. This recent clarification includes hazardous chemical communication and labeling, laboratory reference information, and operator aid policies.
- Training and Qualification sessions for laboratory staff are being performed.

Manned entry, to assess the radiological conditions of Laboratory 325's Room 40A (location of High Level Radiochemistry Facility's associated slab tanks), was successfully completed on November 3, 1994. The entire activity was carried out as planned and ALARA considerations were extremely successful considering the highest dose received was approximately 10 mrem/hr in areas of 50 rad.

**DNFSB 93-5 QUARTERLY REPORT, APRIL 1 TO JUNE 30, 1997**

**5 REFERENCES**

Conway, J. T., 1996a, (letter to H. R. O'Leary, DOE, September 4), Defense Nuclear Facilities Safety Board, Washington, District of Columbia.

Conway, J. T., 1996b, (letter to A. L. Alm, DOE, December 17), Defense Nuclear Facilities Safety Board, Washington, District of Columbia.

Hamilton, D. W., 1996, *A Safety Assessment for Rotary Mode Core Sampling in Flammable Gas Single Shell Tanks, Hanford Site, Richland, Washington*, WHC-SD-WM-SAD-035, Rev. 0-a, Westinghouse Hanford Corporation, Richland, Washington.

Wagoner, J. D., 1996, Contract Number DE-AC06-96RL13200; *Approval to Revise the Interim Safety Basis to Remove Ferrocyanide Tanks from the Watch List*, (letter to H. J. Hatch, Fluor Daniel Hanford, Inc., December 30), Department of Energy, Richland Operations Office, Richland, Washington.

Wagoner, J. D., 1997a, *Completion of Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 93-5 Implementation Plan (IP), Revision 1, Milestone 5.4.3.5.d, "Letter Reporting Qualification of Rotary Mode Core Sampling System for Use in Flammable Gas Tanks,"* (letter to J. T. Conway, DNFSB, 97-WSD-066, April 4), Department of Energy, Richland Operations Office, Richland, Washington.

Wagoner, J. D., 1997b, *Delay in Completing Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 93-5 Implementation Plan (IP), Revision 1, Milestone 5.4.3.1.d, Approved Tank Waste Remediation System (TWRS) Final Safety Analysis Report (FSAR),* (letter to J. T. Conway, DNFSB, 97-MSD-203, June 13), Department of Energy, Richland Operations Office, Richland, Washington.

9453193.11  
Attachment 2  
3 Pages

**DNFSB 93-5 QUARTERLY REPORT, APRIL 1 TO JUNE 30, 1997**

**6.2 Tanks Sampled during Third Quarter FY 1997 (April through June 1997)**

<b>SAMPLE</b>	<b>Actual Start</b>	<b>Actual Finish</b>
BX-104 Temporal Vapor Sample (4) High Priority	4/7/97	4/7/97
SX-104 Grab Sample Compatibility	4/9/97	4/9/97
U-103 Push Samples 1 Segments 9 RGS High Priority	3/25/97	4/9/97
T-204 Rotary Samples 1 Segments 10	3/24/97	4/14/97
T-203 Rotary Samples 1 Segments 9	4/14/97	4/18/97
AY-101 Grab Sample - Caustic Verification	4/21/97	4/22/97
T-202 Rotary Samples 1 Segments 6	4/18/97	4/22/97
T-201 Rotary Samples 1 Segments 9	4/22/97	4/25/97
AW-106 Grab Sample	5/1/97	5/1/97
TX-104 Vapor Sample (4)	5/5/97	5/5/97
AW-103 Push Sample 2 Segments 4-10	4/28/97	5/8/97
AW-105 Rotary Sample 2 Segments 4-9	5/8/97	5/14/97
SX-107 Vapor Sample (4) Rotary	5/19/97	5/19/97
BX-110 Rotary Samples 2 Segments 5	5/15/97	5/22/97
SX-111 Vapor Sample (4) Rotary	5/22/97	5/22/97
244-TX Grab Sample Compatibility	5/28/97	5/29/97
BY-101 Push Samples 2 Segments 8	5/21/97	5/30/97
SX-103 Grab Sample Compatibility	6/6/97	6/6/97
BX-104 Temporal Vapor Sample (4) High Priority	6/10/97	6/10/97
BX-111 Rotary Samples 2 Segments 4	5/28/97	6/10/97
BY-109 Push Samples 2 Segments 7	6/4/97	6/17/97
SX-112 Vapor Sample (4) Rotary	6/18/97	6/19/97
AW-104 Rotary Samples 2 Segments 15-22	6/16/97	6/25/97
SX-114 Vapor Sample (4) Rotary	6/25/97	6/25/97
T-105 Push Sample 2 Segments 2	6/19/97	6/30/97

**6.3 Chart of Samples Taken vs. Samples Scheduled**

Two pages inserted following this page.

**TWRS Characterization Board 93-5 Commitments**

10/25/94

<u>DNFSB #</u>	<u>Title of Commitment</u>	<u>Due Date</u>	<u>Status (WIC to DOE)</u>
DNFSB 6.1	Prepare a Customer Needs Analysis	4/29/94	Submitted on 5/2/94
DNFSB 1.21	Hydrogen Generating DQO Final Report	4/29/94	Submitted on 5/13/94
DNFSB 2.1	DQOs for all 6 Safety Issues	4/29/94	Submitted on 5/13/94
DNFSB 4.3	Delegation of Authority for RL/Safety & Env'l	4/29/94	Submitted on 8/15/94
DNFSB 3.9	Detailed Plans for Acquiring/Training Add'l Crews	4/29/94	Submitted on 4/29/94
DNFSB 1.12	Mgmt Staff Complete Systems Engineering Training	5/31/94	Submitted on 2/15/94
DNFSB 1.9	Plan for Blind Samples	5/31/94	Submitted on 5/24/94
DNFSB 6.2	Issue a Data Mgmt Improvement Plan	5/31/94	Submitted on 5/26/94
DNFSB 1.3	Improve RL Oversight	5/31/94	Submitted on 5/27/94
DNFSB 1.14	Char Portion of Initial Sys Eng Analysis Results	6/30/94	Submitted on 6/30/94
DNFSB 5.6	Evaluate Lab Staff Training	6/30/94	Submitted on 6/30/94
DNFSB 3.15	EVA for In Situ Moisture Monitoring	6/30/94	Submitted on 6/30/94
DNFSB 1.11	Field Schedule for Sampling All Activ's FY95-6	6/30/94	Submitted on 6/28/94
DNFSB 3.10	Qual of 2 Additional Crews/Push & Rotary Trucks	6/30/94	Submitted on 9/26/94
DNFSB 3.17	Review Procedures w/Outside Drilling Experts	6/30/94	Expected by 11/15/94
DNFSB 1.17	Historical Tank Content Estimate Reports/NE/SW	6/30/94	Submitted on 6/30/94
DNFSB 1.10	Issue Quarterly Progress Reports (DNFSB/DOE)	7/25/94	Submitted on 6/28/94
DNFSB 1.21	Pretreatment DQO Draft Report	8/22/94	Submitted on 7/21/94
DNFSB 3.19	Eng'g Eval. of Installing New Risers in SSTs	8/31/94	Submitted on 8/3/94
DNFSB 1.20	TWRS Risk Acceptance Criteria	8/31/94	Submitted on 8/31/94
DNFSB 5.7	Dev. & Implement Training for Laboratory Staff	8/31/94	Submitted on 9/30/94
DNFSB 1.21	ILW Immobilization DQO Draft Report	9/06/94	Submitted on 6/30/94
DNFSB 1.21	LLW Immobilization DQO Draft Report	9/21/94	Submitted on 8/22/94
DNFSB 5.1	Install Core Scanning in Hot Cell	9/30/94	Change Request/delete
DNFSB 5.4	Cyanide Speciation Tech Transfer (PNL)	9/30/94	Change Request/delete
DNFSB 5.8	Procure & Receive 2 PAS-1 Casks (DOE-RL)	9/30/94	Submitted on 8/10/94
DNFSB 3.11	Additional Rotary Mode Core Systems (DOE-RL)	9/30/94	Expected: June 1995
DNFSB 1.16	Historical Tank Layering Models	9/30/94	Submitted on 9/30/94
DNFSB 6.5	Data Loading of 20 Tanks into TCD/(M-44-06)	9/30/94	Submitted on 9/30/94
DNFSB 1.10	Issue Quarterly Progress Reports	10/21/94	Submitted on 10/24/94
DNFSB 5.12	Upgrade INEL Lab to Ready to Serve Mode	10/31/94	Submitted on 10/31/94
DNFSB 3.12	Hire/Train/Qualify 4 Add'l Rotary Mode Crews	10/31/94	Submitted: June 1996
DNFSB 1.15	Integrate Vapor Sampling Program into Char. Prgm	10/31/94	Submitted: 11/3/94
DNFSB 1.23	Identify 'Bounding Tanks' for Disposal	11/30/94	On schedule

TWRS Characterization Program  
Defense Nuclear Facilities Board 93-5 Commitments

10/25/94

DNFSB #	Title of Commitment	Due Date	Status (WIC to DOE)
DNFSB 1.21	C-103 Dip Sample DQO	12/16/94	Submitted on 8/31/93
DNFSB 1.21	C-106 High Heat DQO Final Report	12/20/94	Submitted on 1/20/94
DNFSB 1.19	Dev. Stat Tools Necessary/Amt Samples Need	12/30/94	On schedule
DNFSB 1.10	Issue Quarterly Progress Reports	1/20/95	On schedule
DNFSB 3.16	Direct Drill Bit Temperature Monitoring	1/31/95	On schedule
DNFSB 3.18	Dev. Means for Measuring Complete Sample Recovery	1/31/95	On schedule
DNFSB 5.14	Two PAS-1 Casks will be ready for use Jan. 1995	1/31/95	Expected date: TBD
DNFSB 5.13	Upgrade LNL Lab to Ready to Serve Mode	2/28/95	On schedule
DNFSB 1.18	Historical Tank Content Estimate Reports/NW/SE	3/31/95	On schedule
DNFSB 1.10	Quarterly Progress Reports	4/21/95	On schedule
DNFSB 3.14	Installation of Flammable Gas Monitors	4/28/95	On schedule
DNFSB 3.13	Deploy Prototype Cone Penetrometer	5/31/95	On schedule
DNFSB 1.5	Implement Char Program Plan to Improve Staff Compet	5/31/95	Expected date: TBD
DNFSB 1.10	Quarterly Progress Reports	7/25/95	On schedule
DNFSB 5.2	Complete Renovation of 325 'A' Hot Cell	9/29/95	Expected date: 4/30/96
DNFSB 1.10	Quarterly Progress Reports	10/20/95	On schedule
DNFSB 2.3	Complete Sampling & Analysis of All Watch List	10/31/95	Expected date: 4/8/98
DNFSB 1.10	Quarterly Progress Reports	1/23/96	On schedule
DNFSB 1.10	Quarterly Progress Reports	4/22/96	On schedule
DNFSB 1.10	Quarterly Progress Reports	7/22/96	On schedule
DNFSB 1.10	Quarterly Progress Reports	10/22/96	On schedule
DNFSB 7.1	Formally Submit Changes to Commitments	As required	As required
DNFSB 7.2	Address Changes to Milestones in Quarterly	As required	As required

Letter # 9458380

Attachment 2

13 Pages



Westinghouse  
Hanford Company

P.O. Box 1970 Richland, WA 99352

December 9, 1994

9453193.12

Mr. J. M. Clark, Acting Director  
Characterization Division  
Office of Tank Waste Remediation System  
U.S. Department of Energy  
Richland Operations Office  
Richland, Washington 99352

Dear Mr. Clark:

CHARACTERIZATION PROGRAM BIWEEKLY REPORT FOR THE PERIOD ENDING  
NOVEMBER 18, 1994

Attached is the Characterization Program Biweekly Report for the period  
ending November 18, 1994. This Biweekly Report is to keep you informed of  
the progress of ongoing activities.

If you need further information, please contact Mr. G. T. Frater on  
373-1627.

Very truly yours,

T. J. Kelley, Manager  
Characterization Program  
Tank Waste Remediation System Operations Programs

klh

Attachments (2)

DOE-HQ - K. T. Lang  
J. Poppiti

PNL - P. G. Eller  
P. J. Mellinger  
W. C. Weimer

RL - P. K. Clark  
T. Noble  
J. R. Noble-Dial  
R. O. Puthoff (w/o attachment)

SAIC - H. G. Sutter

MACTEC - J. P. Haney



CHARACTERIZATION PROGRAM  
BIWEEKLY REPORT FOR THE PERIOD  
ENDING NOVEMBER 18, 1994

SIGNIFICANT ACCOMPLISHMENTS

The rotary sampling system located in BY Farm began taking waste samples on November 16, 1994, after Operational Readiness Review approval and a series of equipment failures occurred and were corrected. The first rotary sample segment was obtained from tank 241-BY-106 on November 16, 1994.  
(WBS 1.1.1.2.4.3)

PROBLEMS/ISSUES

The corrective repair work for restoring the push mode system was divided into two work packages. Both packages were finalized on November 9, 1994, and a schedule for doing the work was also developed. The heavier Neutralized Current Acid Waste (NCAW) shielded receiver currently on the push truck will be replaced with the lighter shielded receiver. The lighter shielded receiver is the standard unit used on the rotary truck. The mounting shielded receiver framework on the truck was found to be bent. Repairs will be complete in early January. (WBS 1.1.1.2.4.3)

DETAILED WORK ACTIVITIES

TECHNICAL INTEGRATION AND PLANNING (WBS 1.1.1.2.4.1)

Westinghouse Hanford Company (WHC) employees have participated in savings through sharing. WHC has gained new insight from other Government Owned Contractor Operated (GOCO) companies (e.g., WHC Savannah River, Westinghouse Idaho Nuclear Company) by sharing information, technologies, processes, and software that have saved money and enabled employees to do their jobs better. The Savannah River Characterization Program Manager for High and Low Level Waste visited November 7, 1994 and discussed several issues with members of the Westinghouse Hanford Characterization Program.

TECHNICAL DEVELOPMENT AND APPLIED ENGINEERING (WBS 1.1.2.4.2)

Commercial geophysical acoustic equipment was successfully operated on November 9, 1994, at Hanford in tank 241-TX-114 in the 200 West area providing a defensible basis for using acoustic methods and devices in real tank wastes. This in situ acoustic effort produced what appeared to be very good data. The objective of this activity is to establish the feasibility of using acoustic methods to locate obstructions or discontinuities in the waste within the underground storage tanks. The acoustic equipment interrogated real tank waste materials in a plane

between two liquid observation wells (LOW's), thirty feet apart, in a zone near the bottom of the tank to twelve feet above the tank bottom. The raw data was reviewed by representatives of the Massachusetts Institute of Technology (MIT's) Earth Resources Laboratory, and by Elohi Geophysics, Inc. and found to be very good data over the entire range of the volume of waste inspected. A preliminary report is expected within the next few weeks, and a final report issued within the next ninety days. This activity was sponsored by Tank Waste Remediation System (TWRS) Characterization Program and performed by a technical team composed of Westinghouse Hanford Company, Los Alamos National Laboratory (LANL), MIT, Ames Laboratory, and Elohi Geophysics, Inc.

The Sample Verification Instrumented Receiver (SVIR) is being developed by the Southwest Research Institute and Los Alamos Technical Associates (LATA) for Westinghouse Hanford Company. The SVIR will permit measurements of waste samples in the field while the sample is still in the sampler immediately after removal from the tank to provide an indication of sample quantity and recovery. The SVIR draft design drawings are in progress. A functions document for the SVIR was prepared and submitted to LATA and WHC on November 11, 1994. All components that will make up the load cell for the instrument have been identified including the electrical cabling and connectors to implement the load cell subsystem.

#### FIELD SAMPLING AND MEASUREMENT (WBS 1.1.1.2.4.3)

The work package to remove the shielded receiver from the push mode truck was released on November 14, 1994. Work started late in the day of November 14, 1994, with crane setup and other preparations in the field to remove the unit from the push truck. The truck was moved out of the fresh air zone to an area within C Farm on November 17, 1994, for continued work on the planned inspection and corrective actions. The shielded receiver was removed from the push truck on November 18, 1994. This will allow measurement of frame straightness which was suspected of being bent when the hydraulic cylinder rod on one side bent during operation.

A lock and tag was placed on the BY tank farm power supply on November 7, 1994, and the electrical hookup for the rotary mode system sample truck and exhaustor was completed. Electrical power for the rotary truck and accessories, except the breathing air compressor (BAC) will be provided by the in-farm electrical power supply. A new engine generator set borrowed from the #3/#4 Rotary Mode Core Sampling (RMCS) Systems will be used for the BAC due to a power cord length limit. The breathing air compressor (BAC) was connected on November 14, 1994, in preparation for planned sampling to resume as soon as the nearby radiation field at tank 241-BY-109 was resolved.

The Rosemont analyzer, replaced on November 14, 1994, with a new unit, was calibrated as soon as the radiation zone was cleared in BY farm.

The old Rosemont analyzer removed from service will be evaluated and bench tested for possible reuse on the RMCS sampling system. The radiation field at tank 241-BY-109 was cleared at the end of the day on November 14, 1994. The BY farm entry restriction was removed allowing truck access by personnel on November 15, 1994.

The rotary mode truck began powering up in preparation for the start of planned sampling of tank 241-BY-106 on November 14, 1994. The powering up phase included calibration of instrumentation prior to sampling.

Technical problems with both the Breathing Air Compressor and the Exhauster delayed rotary sampling 241-BY-106 On November 14, 1994. The electrical power supplies for the Breathing Air Compressor and the Exhauster were both out of phase with the respective electric motors. This condition was corrected on November 15, 1994.

The need to provide alternate electric power arose after the diesel engine generator set failed. The failure of the engine on the engine generator set system used to support the rotary truck was diagnosed as a failed connecting rod bolt in the diesel engine. The connecting rod punched through the engine block. The engine is no longer within warranty but will be repaired and returned to service after a factory approved vendor rebuilds the engine off site.

Rotary mode sampling resumed in tank 241-BY-106, on November 16, 1994. A sample was in the drill string at the end of the day. The sample could not be transferred out of the drill string to the shipping cask until the wind conditions dropped to an acceptable level which occurred on November 18, 1994. Rotary mode sampling continued on November 18, 1994, with the removal of one segment from 241-BY-106 and the insertion of the drill string for the next sample before shift end. Sampling will continue on November 21, 1994.

Riser preparation for two tanks, 241-AP-106 and 241-AW-102, was completed on November 7, 1994. Set up completed on 241-AP-106 on November 8, 1994, for the scheduled liquid grab sampling, and on November 11, 1994, for the first of 16 grab samples from 241-AW-102. Scheduled liquid grab sampling in tank 241-AP-106 was initiated on November 11, 1994, with two of the "field blank" samples obtained and the remaining planned sample blanks and process samples to continue on November 14, 1994. As of November 15, 1994, eight process samples had been obtained from tank 241-AP-106 in accordance with the Tank Characterization Plan plus six blank samples for a total of fourteen altogether. Four samples were shipped to the 222-S Laboratory on November 14, 1994, and four were shipped on November 15, 1994. On November 17, 1994, five liquid grab samples were obtained from tank 241-AP-106 completing the scheduled samples for this tank. Cleanup

activities were begun and the remaining samples were prepared for shipment to the laboratory.

The second auger sample taken from tank 241-A-104 was shipped to the 222-S Laboratory on November 7, 1994. In-tank photographs taken several years ago of the waste in this tank indicated that the waste surface is dry. If the waste is dry and powdery below the surface (no way to tell from photographs) as well as on the surface, the auger may not be effective in obtaining and holding a sample. Zip cord surface level readings in the two remaining risers not yet sampled in tank 241-A-104 were completed on November 8, 1994. The waste depth below each riser in this tank is very low. The information will be used to evaluate the merit of placing a camera in the tank to observe the remaining two scheduled auger sampling events and whether the samples should be collected. The zero percent recovery of the first two auger samples taken from this tank will be a factor in the evaluation. Restaging auger equipment from 241-A-104 to 241-C-108 began on November 10, 1994, and continued to November 11, 1994. Further investigation is ongoing regarding the poor results in sampling 241-A-104.

Field setup for the scheduled sampling at 241-C-108 was completed on November 17, 1994. The camera was installed, "zip" cord readings to the waste surface to establish waste depth were completed, and two auger samples were obtained from tank 241-C-108 on November 18, 1994. Once the results of the extrusion of these samples at the laboratory (percent recovery) are known, the decision to continue in the next riser will be made. Only if there is no recovery would the sampling in this tank be curtailed.

Asbestos abatement for the first of three risers in BY farm scheduled for vapor sampling was completed on November 7, 1994. The Heated Vapor Probes, one per tank in tanks 241-BY-110, 241-BY-111, and 241-BY-112, were installed on November 8, 1994.

Vapor sampling equipment was powered up on November 10, 1994, in preparation for sampling tank 241-BY-110 on November 11, 1994. The scheduled type 3 vapor sample from tank 241-BY-110 was obtained on November 11, 1994.

The type 3 vapor sample from tank 241-BY-111 was obtained on November 16, 1994.

The type 3 vapor sample from tank 241-BY-112 was obtained on November 18, 1994.

Vault CR-003 was prepared on November 10, 1994, for sampling. As of November 13, 1994, scheduled sampling of CR-003 was delayed by an obstruction found in the riser to the tank prior to sampling. This undocumented obstruction required identification of an alternate riser and corresponding work package modification before sampling could resume.

Sampling Operations personnel attended safety meetings and a variety of required training sessions on November 9, 1994.

#### ANALYTICAL INTEGRATION (WBS 1.1.1.2.4.4)

At the 222-S Laboratory, the auger sample from tank 241-A-104, riser #1 was processed through the Hot Cell on November 4, 1994. The recovery was zero percent.

The 241-A-104 auger sample from riser #7 was extruded at the 222-S Laboratory on November 8, 1994. The chain of custody sheet indicated a maximum 10 inch sample but no solid or liquid was recovered, i.e. zero percent recovery. The field dose rate was less than 0.5mr/hour. A photograph was made from the video taken during extrusion. The photograph revealed a trace amount of a thin black material observed at the tip of the auger. The material was estimated to be less than a half gram which is an insufficient quantity to recover. Observations range from an oily look to a graphite-like appearance. The 222-S Laboratory followed the Safety Analysis Report for Packaging (SARP) venting requirements for the cask.

Tank 241-C-103, Core 63, Segment #1 was extruded on November 4, with a recovery of 71.2%, at the 222-S Laboratory.

The final data package for 241-AP-108 grab samples for the Evaporator Program was completed and delivered on November 9, 1994, three days ahead of schedule.

Four grab samples from tank 241-AP-106 were received at the 222-S Laboratory on November 14, 1994. Additional grab samples were received by the 222-S Laboratory on November 16, 1994. Six 241-AP-106 liquid grab samples were received at the 222-S Laboratory on November 18, 1994.

The 222-S Laboratory on November 10, 1994 completed the "Rush Analyte List" for the 241-AW-102 grab sample in 24 hours as support for the Evaporator Restart Final Pass. The analytes included hydroxide, aluminum, nitrate, nitrite, carbonate, phosphate, sulphate (Inductively Coupled Plasma [ICP] Analysis), fluoride (Dionex), Total Organic Carbons (TOC), Percent Solids, and Specific Gravity.

Notification was made on November 9, 1994, by the 222-S Laboratory on-duty shift manager to the East Tank Farms shift manager regarding thermal gravimetric analysis (TGA) measurements indicating less than 17% water in an auger sample from tank 241-BX-105, riser #2 (only one auger sample collected), and #6 (only one auger sample collected):

Riser #2	13.76% water upper half of auger material
	7.24% water for the duplicate sample
Riser #6	4.91% water upper half of auger material
	5.54% water for the duplicate sample

Riser #6 16.18% water lower half of auger material  
14.78% water for the duplicate sample

Notifications were made on November 14, 1994, that the thermal gravimetric analysis (TGA) measurements, indicate less than 17% water in auger samples from tanks 241-BX-105 (only one auger sample collected) and 241-B-102 (only one auger sample collected):

Riser #2 15.74% water lower half of auger, 241-BX-105  
13.43% water for the duplicate sample, 241-BX-105

Riser #1 16.98% water (immediate sample check), 241-B-102  
13.07% water lower half of auger, 241-B-102  
15.15% water for the duplicate sample, 241-B-102

Performance of routine radiological activities remain on hold at the Pacific Northwest Laboratory's (PNL's) 325 Laboratory, but the following activities have been completed toward restart:

A complete walk down of the 325 Laboratory was conducted in response to the DOE Independent Review Team's assessment conducted in early November. The walkdown included Occupational Safety and Health Administration (OSHA), Criticality Safety, Material Balance Areas, Radiation Control and Industrial Health and Safety related areas. Selected senior level staff identified areas of concern throughout the laboratory. A structured process was developed to assign action items addressing the areas of concern and to prioritize and assign resources to the action items. The action items also took into consideration the six causal factors and focused on root cause of the items identified. Top priority was given to items that involved potential safety issues. Resources were focused on those areas identified as needing attention; laboratory staff, craft, services, and Radiation Protection Technology staff coordinated their efforts to close out most of the pre-start items. A new Radiological Work Permit for performing housekeeping was issued which allowed qualified staff to perform major clean-up in the laboratories. The 325 Building line management performed a walk down to verify the corrective actions and identify any items or issues that remain open.

In addition, PNL line management held a series of meetings for all 325 Building staff to communicate operational changes and policies for the facility as well as the expectation of DOE and PNL management for the restart of radiological operations in the 325 Laboratory.

The DOE line management team completed a walk down of the laboratory on November 18, 1994. Areas identified as still needing corrective action were forwarded to PNL management. The

final DOE Line Review will begin November 21, 1994, and continue through November 23, 1994. Upon successful completion of this review, DOE line management will notify the DOE Independent Review Team to resume their review.

The DOE Independent Review Team remains on hold pending declaration of readiness by 325 Building management and completion of the DOE Line Independent Team Review. The date scheduled for resumption of the DOE Independent Review Team assessment is December 1, 1994, with completion by December 6, 1994, and approval for restart of radiological activities in the 325 Laboratory on December 9, 1994.

Meetings have been held with the Washington State Department of Ecology (Ecology) and RL to address the waste disposal issues with the High Level Radiochemical Facility (HLRF) slab tanks. PNL has developed a plan for the inspection, testing and continued monitoring of the tanks which will be presented to Ecology on November 21, 1994. Approval of this plan is required for the continued use of the HLRF hot cell facility.

#### DATA EVALUATION AND REPORTING (WBS 1.1.1.2.4.5)

Tank Characterization Plans (TCP's) were completed for:

- 241-BY-108 TCP, Rev 0A (auger) released November 4, 1994
- 241-BX-105 TCP, Rev 0A (auger) released November 8, 1994
- 241-AP-106 TCP, Rev 0 (evaporator grab) released November 8, 1994.

Two TCP revisions were released on November 17, 1994:

- (1) Tank 241-BY-106, Rev 0C; change in type of sample preparation for specific analytes per the request of the Ferrocyanide Program.
- (2) Tank 241-AP-106, Rev 1; after review of the available tank historical sample data decision to reduce the suite of analyses was made.

The Tank Characterization Database (TCD) team provided an informal demonstration of access to the TCD system through the Tank Waste Information Network System (TWINS) interface. The TWINS interface allows user friendly access to the TCD data and provides a number of means for querying the database and formatting the data into tables.

Representatives of the Characterization Program met with Pretreatment and Disposal technical personnel to refine the strategy to obtain samples and data in support of Pretreatment and Disposal. The refined strategy identified a phased approach to obtaining sample material from a small set of bounding tanks. The majority of the information needed

for pretreatment process development will be obtained from process tests on sample material. Analysis required from the Characterization Program will be limited to information which will complement the historical data and allow confident extrapolation of test results to other tanks. This information will be documented in the Pretreatment characterization strategy document and the revised Pretreatment/Disposal Data Quality Data Objectives Document.

A meeting among the Characterization Program, TWRS Engineering and the 222-S Laboratory was held on November 8, 1994, to address expedited distribution of laboratory data. It was resolved that early release of analytic data to Tank Characterization Report (TCR) writers would be performed to expedite TCR development. TCR writers will work with the laboratories to ensure that data reviews and quality assurance checks are completed before the information is released. The meeting also identified the mechanism (already in place) to provide early notification to interested parties of measurements exceeding limits of concern. This mechanism will be used more extensively in the future to communicate operations as well as safety related characterization information.

On November 9, 1994, the Characterization Program approved the memorandum test plan justifying the vapor sampling required for tank 241-AN-107. This is a special purpose vapor sampling event which does not fall under the scope of the generic vapor data quality objectives document. The memorandum justifies and describes the vapor analysis work required in support of the Caustic Addition Project.



**9453193.12**  
**Attachment 2**  
**3 Pages**

TWRS Characterization Program  
Defense Nuclear Facilities Board 93-5 Commitments

11/18/94

<u>DNFSB #</u>	<u>Title of Commitment</u>	<u>Due Date</u>	<u>Status (WHIC to DOE)</u>
DNFSB 3.1	Init. Construction of 2nd/3rd Rotary Mode trucks	11/30/93	Submitted on 11/1/93
DNFSB 1.21	Ferrocyanide Safety Issue DQO Report	12/15/93	Submitted on 12/31/93
DNFSB 1.21	Vapor Rotary Core DQO Final Draft Report	1/20/94	Submitted on 2/14/94
DNFSB 1.13	Char. Functions/Reqmts in Functional Anal	1/31/94	Submitted on 1/20/94
DNFSB 6.6	Eval. 12 Validated Data Reports for Safety	1/31/94	Submitted on 4/25/94
DNFSB 5.9	Plan to Upgrade INEL Lab	1/31/94	Submitted on 1/31/94
DNFSB 6.3	Initial On-Line Capability (LABCORE-1)	1/31/94	Submitted on 1/31/94
DNFSB 2.2	Safety Screening Module DQO Report	1/31/94	Submitted on 2/23/94
DNFSB 1.21	C-103 Vapor DQO Draft Report	1/31/94	Submitted on 3/25/94
DNFSB 1.21	Organic Safety Issue DQO Report (PNL)	1/31/94	Submitted on 4/29/94
DNFSB 1.7	Streamline DQO Process	1/31/94	Submitted on 12/31/93
DNFSB 6.4	Demon. Offsite Access to TCD/3 HLW Tanks/TCD	1/31/94	Submitted on 1/28/94
DNFSB 1.21	Safety Screening Module DQO	1/31/94	Submitted on 2/32/94
DNFSB 4.2	DOE-RL to Submit a request for DOA to DOE-HQ	1/31/94	Submitted on 1/10/94
DNFSB 3.2	Review Char. Field Proc's/DOE Conduct of Ops	1/31/94	Submitted on 2/28/94
DNFSB 1.8	Release TWRS Characterization QA Plan	2/28/94	Submitted on 2/28/94
DNFSB 1.1	Enhance WHIC Char. Program Mgmt Staff	2/28/94	Submitted on 2/28/94
DNFSB 5.11	Dev. Min/Max Lab Capacity Strategy	2/28/94	Submitted on 2/28/94
DNFSB 1.21	Waste Compatibility DQO Report	2/28/94	Submitted on 3/4/94
DNFSB 1.22	Update FY94 Field Schedule to Incorporate New Techn's	2/28/94	Submitted on 2/3/94
DNFSB 3.3	Complete Qualification of First Push-mode Crew	2/28/94	Submitted on 1/26/94
DNFSB 3.5	Complete Training & Qual Reqmts for Sampling Cog	2/28/94	Submitted on 2/24/94
DNFSB 4.1	Issue Approved Broad-based Envir. Assessment	2/28/94	Submitted on 2/28/94
DNFSB 1.21	In-tank Generic Vapor DQO Final	3/03/94	Submitted on 3/7/94
DNFSB 5.10	Plan to Upgrade LANL Lab	3/29/94	Submitted on 3/28/94
DNFSB 1.2	Reduce Number of Mgmt Layers in WHIC TWRS	3/31/94	Submitted on 3/24/94
DNFSB 1.6	Define Responsibilities of Key WHIC Managers/Char.	3/31/94	Submitted on 3/31/94
DNFSB 5.3	Letter Assessing New Extruder	3/31/94	Submitted on 3/28/94
DNFSB 5.5	Issue Results of Sampler Exchange Phase II	3/31/94	Submitted on 3/31/94
DNFSB 3.7	Complete Qual of First Rotary Mode Crews	3/31/94	Submitted on 3/31/94
DNFSB 3.4	Redeploy PM Core Sampling	3/31/94	Submitted on 3/31/94
DNFSB 3.6	Restore Rotary Mode Sampling (TPA)	3/31/94	Submitted on 3/31/94
DNFSB 1.10	Issue Quarterly Progress Reports (DNFSB/DOE)	4/29/94	Submitted on 10/26/94
DNFSB 1.4	Improve WHIC Char Technical Staff Competencies	4/29/94	Submitted on 5/3/94
			Submitted on 4/29/94

Letter # 9458380

Attachment 3

3 Pages

Site Management System	Westinghouse Hanford Company 1.1 Tank Waste Remediation System	November 1994
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## EXPENSE COST PERFORMANCE

(\$ In Millions)

12/16/94 08:41 AM

WBS / TITLE	FY TO DATE				AT COMPLETION (FY)				COMMENTS	
	BUDGET COST		ACTUAL COST	VARIANCE		BAC	EAC *	EXPT'D FUNDS FY95		PROJ'D C/O SCOPE
	WORK	WORK	WORK	SCHED	COST					
<u>(1130-0) CHARACTERIZATION</u>										
<u>-WESTINGHOUSE HANFORD COMPANY</u>										
1.1.2.4.1	Tech. Integration & Planning	0.2	0.2	0.3	0.0	(0.1)	1.4		0.0	
1.1.2.4.2	Tech Developm't & Appl Engr	0.3	0.3	0.4	0.0	(0.1)	2.2		0.0	
1.1.2.4.3	Field Sampl'g & Measurem't	3.7	1.9	3.7	(1.8)	(1.8)	24.1		0.0	
1.1.2.4.4	Analytical Integration	4.1	2.8	0.5	(1.3)	2.3	29.8		0.0	
1.1.2.4.5	Data Eval'n & Reporting	1.1	1.1	0.5	0.0	0.6	6.0		0.0	
	TOTAL - W.H.C.	9.4	6.3	5.4	(3.1)	0.9	63.5	54.0	0.0	
<u>- P.N.L</u>										
1.1.2.4.1	Tech. Integration & Planning	0.1	0.0	0.1	(0.1)	(0.1)	0.5		0.0	
1.1.2.4.2	Tech Developm't & Appl Engr	0.1	0.1	0.1	0.0	0.0	1.1		0.0	
1.1.2.4.4	Analytical Integration	0.2	0.2	0.3	0.0	(0.1)	4.2		0.0	
1.1.2.4.5	Data Eval'n & Reporting	0.1	0.1	0.2	0.0	(0.1)	1.5		0.0	
	TOTAL - P.N.L.	0.5	0.4	0.7	(0.1)	(0.3)	7.3	9.2	0.0	
<u>-O.R.N.L</u>										
1.1.2.4.4	Analytical Integration	0.1	0.1	0.1	0.0	0.0	0.5	0.7	0.0	
<u>-G.J.P.O</u>										
1130-0	Vadose Zone Monitoring	0.2	0.2	0.2	0.0	0.0	0.3	0.3	0.0	
CONTINUED ON NEXT PAGE										

\* EAC is not available at this time.

\*\*\* Expected Funds is defined as total funding guidance expected at fiscal year end (includes anticipated approval of change requests, carryover, reprogramming actions and reserve holdbacks). XI-1.6

SITE MANAGEMENT	WESTINGHOUSE HANFORD COMPANY	1.1 TANK WASTE REMEDIATION SYSTEM	NOVEMBER 1994
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# EXPENSE COST PERFORMANCE

(\$ in Millions)

12/16/94 08:41 AM

WBS / TITLE	FY TO DATE			BAC	EAC *	EXPTD FUNDS FY95	PROJD C/O SCOPE	COMMENTS
	BUDGET	ACTUAL	VARIANCE					
CHARACTERIZATION (CONT'D)								
	- L.N.E.L.							
	1.1.2.4.4 Analytical Integration	0.3	0.3	0.0	5.2	1.1	0.0	
	- L.A.N.L.							
	1.1.2.4.2 Tech Developm't & Appl Engr	0.0	0.0	0.0	0.3		0.0	
	1.1.2.4.5 Data Eval'n & Reporting	0.2	0.2	0.0	1.8		0.0	
	TOTAL - L.A.N.L.	0.2	0.2	0.0	2.1	1.7	0.0	
	- S.N.L.							
	1.1.2.4.2 Tech Developm't & Appl Engr	0.2	0.2	0.0	0.6	0.4	0.0	
	TOTAL 1.1.2.4 (1130)	10.9	7.7	7.1	0.6	79.5	67.4	0.0

\* EAC is not available at this time.

\*\*\* Expected Funds is defined as total funding guidance expected at fiscal year end (includes anticipated approval of change requests, carryover, reprogramming actions and reserve holdbacks).

XI-1.7

SITE MANAGEMENT SYSTEM	WESTINGHOUSE HANFORD COMPANY 1.1 TANK WASTE REMEDIATION SYSTEM	NOVEMBER 1994
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## ISSUES

WBS NO.	DATE IDENT	ISSUE	IMPACT	STATUS
Characterization 1.1.2.4-94-47	4/94	Many SSTs only have one to three risers available for sampling instrument installations.	Presently, safety initiative and Tri-Party Agreement milestone schedules show instruments (Thermocouple trees (TCs), Liquid Observation Wells (LOWs) installed before the tank is sampled, further reducing the number of available risers.	ICF KH is supporting the Army Corps of Engineers in their evaluation effort of riser installation.
1.1.2.4-94-64	6/94	The 325 laboratory has not restarted radiological work as the latest restart package was not accepted by DOE-HQ and RL. (Refer to issue number 1.1.2.3-57 on pg. XIII-9, for more details).	Radiological activities in the 325 Building continue to be suspended due to the radiation control incidents.	The DOE Independent Review will resume on December 1, 1994. The review team may finish as early as December 5, 1994. A written report will be issued to RL and PNL management on December 9, 1994.
Waste Retrieval 1.1.2.5-94-71	7/94	Recent events, temperature transients, in Tank 241-C-106 have compounded construction scheduling problems.	Safety Initiative 6D43, "Initiate Sluicing Retrieval of 241-C-106" may be in jeopardy.	All waste intrusion work at 241-C-106 has been suspended by Tank Farm management.

**TWRS Characterization Program  
Defense Nuclear Facilities Board 93-5 Commitments**

11/18/94

<u>DNFSB #</u>	<u>Title of Commitment</u>	<u>Due Date</u>	<u>Status (WHC to DOE)</u>
DNFSB 6.1	Prepare a Customer Needs Analysis	4/29/94	Submitted on 5/2/94
DNFSB 1.21	Hydrogen Generating DQO Final Report	4/29/94	Submitted on 5/13/94
DNFSB 2.1	DQOs for all 6 Safety Issues	4/29/94	Submitted on 5/13/94
DNFSB 4.3	Delegation of Authority for RL/Safety & Env'l	4/29/94	Submitted on 8/15/94
DNFSB 3.9	Detailed Plans for Acquiring/Training Add'l Crews	4/29/94	Submitted on 4/29/94
DNFSB 1.12	Mgmt Staff Complete Systems Engineering Training	5/31/94	Submitted on 2/15/94
DNFSB 1.9	Plan for Blind Samples	5/31/94	Submitted on 5/24/94
DNFSB 6.2	Issue a Data Mgmt Improvement Plan	5/31/94	Submitted on 5/26/94
DNFSB 1.3	Improve RL Oversight	5/31/94	Submitted on 5/27/94
DNFSB 1.14	Char Portion of Initial Sys Eng Analysis Results	6/30/94	Submitted on 6/30/94
DNFSB 5.6	Evaluate Lab Staff Training	6/30/94	Submitted on 6/30/94
DNFSB 3.15	EFA for In Situ Moisture Monitoring	6/30/94	Submitted on 6/30/94
DNFSB 1.11	Field Schedule for Sampling All Activ's FY95-6	6/30/94	Submitted on 6/28/94
DNFSB 3.10	Qual of 2 Additional Crews/Push & Rotary Trucks	6/30/94	Submitted on 9/26/94
DNFSB 3.17	Review Procedures w/Outside Drilling Experts	6/30/94	Expected by 5/1/95
DNFSB 1.17	Historical Tank Content Estimate Reports/NE/SW	6/30/94	Submitted on 6/30/94
DNFSB 1.10	Issue Quarterly Progress Reports (DNFSB/DOE)	7/25/94	Submitted on 7/21/94
DNFSB 1.21	Pretreatment DQO Draft Report	8/22/94	Submitted on 8/3/94
DNFSB 3.19	Eng'g Eval. of Installing New Risers in SSTs	8/31/94	Submitted on 8/31/94
DNFSB 1.20	TWRS Risk Acceptance Criteria	8/31/94	Expected by 4/30/95
DNFSB 5.7	Dev. & Implement Training for Laboratory Staff	8/31/94	Submitted on 6/30/94
DNFSB 1.21	ILW Immobilization DQO Draft Report	9/06/94	Submitted on 8/22/94
DNFSB 1.21	LLW Immobilization DQO Draft Report	9/21/94	Submitted on 8/22/94
DNFSB 5.1	Install Core Scanning in Hot Cell	9/30/94	Change Request/delete
DNFSB 5.4	Cyanide Speciation Tech Transfer (PNL)	9/30/94	Change Request/delete
DNFSB 5.8	Procure & Receive 2 PAS-1 Casks (DOE-RL)	9/30/94	Submitted on 8/10/94
DNFSB 3.11	Additional Rotary Mode Core Systems (DOE-RL)	9/30/94	Expected: April 1995
DNFSB 1.16	Historical Tank Layering Models	9/30/94	Submitted on 9/30/94
DNFSB 6.5	Data Loading of 20 Tanks into TCD/(M-44-06)	9/30/94	Submitted on 9/30/94
DNFSB 1.10	Issue Quarterly Progress Reports	10/21/94	Submitted on 10/24/94
DNFSB 5.12	Upgrade INEL Lab to Ready to Serve Mode	10/31/94	Submitted on 10/31/94
DNFSB 3.12	Hire/Train/Qualify 4 Add'l Rotary Mode Crews	10/31/94	Submitted: June 1996
DNFSB 1.15	Integrate Vapor Sampling Program into Char. Prgm	10/31/94	Expected: 11/3/94
DNFSB 1.23	Identify 'Bounding Tanks' for Disposal	11/30/94	On schedule

**THRS Characterization Program  
Defense Nuclear Facilities Board 93-5 commitments**

11/18/94

DNFSB #	Title of Commitment	Due Date	Status (WIC to DOE)
DNFSB 1.21	C-103 Dip Sample DQO	12/16/94	Submitted on 8/31/93
DNFSB 1.21	C-106 High Heat DQO Final Report	12/20/94	Submitted on 1/20/94
DNFSB 1.19	Dev. Stat Tools Necessary/Amt. Samples Need	12/30/94	On schedule
DNFSB 1.10	Issue Quarterly Progress Reports	1/20/95	On schedule
DNFSB 3.16	Direct Drill Bit Temperature Monitoring	1/31/95	On schedule
DNFSB 3.18	Dev. Means for Measuring Complete Sample Recovery	1/31/95	Expected date: TBD
DNFSB 5.14	Two PAS-1 Casks will be ready for use Jan. 1995	1/31/95	On schedule
DNFSB 5.13	Upgrade LANL Lab to Ready To Serve Mode	2/28/95	Proposed to delete
DNFSB 1.18	Historical Tank Content Estimate Reports/NW/SE	3/31/95	On schedule
DNFSB 1.10	Quarterly Progress Reports	4/21/95	On schedule
DNFSB 3.14	Installation of Flammable Gas Monitors	4/28/95	On schedule
DNFSB 3.13	Deploy Prototype Cone Penetrometer	5/31/95	Expected date: TBD
DNFSB 1.5	Implem. Char Program Plan to Improve Staff Compet	5/31/95	On schedule
DNFSB 1.10	Quarterly Progress Reports	7/25/95	On schedule
DNFSB 5.2	Complete Renovation of 325 'A' Hot Cell	9/29/95	Expected date: 4/30/96
DNFSB 1.10	Quarterly Progress Reports	10/20/95	On schedule
DNFSB 2.3	Complete Sampling & Analysis of All Watch List	10/31/95	Expected date: 4/8/98
DNFSB 1.10	Quarterly Progress Reports	1/23/96	On schedule
DNFSB 1.10	Quarterly Progress Reports	4/22/96	On schedule
DNFSB 1.10	Quarterly Progress Reports	7/22/96	On schedule
DNFSB 1.10	Quarterly Progress Reports	10/22/96	On schedule
DNFSB 7.1	Formally Submit Changes to Commitments	As required	As required
DNFSB 7.2	Address Changes to Milestones in Quarterly	As required	As required